

10/693,492
DOCKET NO. 030115

6

REMARKS

Claims 1-18 are all the claims presently pending in the application. Claims 1 and 14 are amended to more clearly define the invention. Claims 1 and 14 are independent.

These amendments are made only to more particularly point out the invention for the Examiner and not for narrowing the scope of the claims or for any reason related to a statutory requirement for patentability.

Applicant also notes that, notwithstanding any claim amendments herein or later during prosecution, Applicant's intent is to encompass equivalents of all claim elements.

Entry of this §1.116 Amendment is proper. Since the Amendments above narrow the issues for appeal and since such features and their distinctions over the prior art of record were discussed earlier, such amendments do not raise a new issue requiring a further search and/or consideration by the Examiner. As such, entry of this Amendment is believed proper and Applicant earnestly solicits entry. No new matter has been added.

Claims 1-4, 6-7, 9-12, and 14-17 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Borle (U.S. Patent No. 4,334,865). Claims 5, 8, 13, and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Borle in view of Bjorn, et al. (U.S. Patent No. 6,896,517).

These rejections are respectfully traversed in the following discussion.

I. THE CLAIMED INVENTION

An exemplary embodiment of the claimed invention, as defined by, for example, independent claim 1, is directed to an artificial root of a tooth that includes an artificial root body of a tooth, provided with a male thread part to be engaged with a jawbone, and with a

10/693,492
DOCKET NO. 030115

7

supporting stage on which an artificial tooth is mounted, and a self tapping part including a saw-blade shape provided on said artificial root body of the tooth. Each tooth of the saw-blade shape is positioned in a circumferential spiral-line direction of an edge of the male thread part from an adjacent tooth in the saw-blade shape.

Conventional artificial tooth roots require that a female thread be formed within a jaw bone prior to installation of the tooth root. Therefore, these conventional artificial tooth roots require a complicated, laborious and lengthy surgery.

Further, conventional artificial tooth roots suffer from the problem of the tooth root gradually loosening over time and, therefore, provide an unstable mounting.

In stark contrast, to these conventional artificial tooth roots, an exemplary embodiment of the claimed invention provides an artificial tooth root with a self tapping part including a saw-blade shape. Each tooth of the saw-blade shape is positioned in a circumferential spiral-line direction of an edge of the male thread part from an adjacent tooth in the saw-blade shape. This saw-blade shape provides for self tapping of a female thread simultaneously to the installation of the artificial tooth root thereby significantly reducing the complexity and length of the surgery necessary to install the artificial tooth root.

Further, this saw-blade shape provides spaces between the teeth of the saw-blade shape into which the particles cut from the jaw bone may reside and into which the jaw bone may grow and, thereby, obtain a stable mount.

II. THE PRIOR ART REJECTION

A. The Borle reference rejection

Regarding the rejection of claims 1-4, 6-7, 9-12, and 14-17, the Examiner alleges that

10/693,492
DOCKET NO. 030115

8

the Borle reference teaches the claimed invention. Applicant submits, however, that there are elements of the claimed invention which are neither taught nor suggested by the Borle reference.

None of the applied references teaches or suggests the features of the claimed invention including an artificial tooth root with a self tapping part including a saw-blade shape where each tooth of the saw-blade shape is positioned in a circumferential spiral-line direction of an edge of the male thread part from an adjacent tooth in the saw-blade shape. As explained above, this feature is important for reducing the complexity and length of surgery for installation of the tooth root and also ensures the formation of a stable mount.

(Page 3, lines 2 - 7).

When the present invention is compared with the screw that is disclosed by the Borle reference, the structure of the screw thread is absolutely different. According to the present invention, the edge of the male thread itself (i.e. the circumferential thread edge along the spiral line) is in the shape of saw teeth (e.g., serration), and such portion serves as the second self tapping part.

In stark contrast, as illustrated by Figure 1, the screw of the Borle reference is absolutely different. The "saw-tooth shape" of the screw of the Borle reference, as described at column 1, lines 52-54, merely means that the sectional shape of the rod 11 in the axial direction may be seen like a saw blade. The screw of the Borle reference in the circumferential spiral-line direction is not a serrated shape.

In other words, the Borle reference discloses a dental obturation screw having a thread with a saw-shape where each teeth is positioned in a longitudinal (axial) direction from an adjacent tooth. In other words, the "teeth" which are disclosed by the Borle reference extend

10/693,492
DOCKET NO. 030115

9

in a longitudinal direction.

Clearly, the "teeth" of the thread of the Borle reference do not include teeth which are positioned in a circumferential direction from an adjacent tooth.

Indeed, the Examiner does not allege that the Borle et al. reference teaches or suggest this feature.

Rather, in stark contrast, the Borle reference merely discloses a self-tapping tooth anchor that does not have a tooth of the saw-blade shape that is positioned in a circumferential spiral-line direction of an edge of the male thread part from an adjacent tooth in the saw-blade shape.

Therefore, the Borle reference does not teach or suggest each and every element of the claimed invention and the Examiner is respectfully requested to withdraw this rejection of claims 1-4, 6-7, 9-12, and 14-17.

B. The Borle reference in view of the Bjorn et al. reference

Regarding the rejection of claims 5, 8, 13, and 18, the Examiner alleges that the Bjorn et al. reference would have been combined with the Borle reference to form the claimed invention. Applicant submits, however, that these references would not have been combined and even if combined, the combination would not teach or suggest each and every element of the claimed invention.

None of the applied references teaches or suggests the features of the claimed invention including an artificial tooth root with a self tapping part including a saw-blade shape where each tooth of the saw-blade shape is positioned in a circumferential spiral-line direction of an edge of the male thread part from an adjacent tooth in the saw-blade shape.

10/693,492
DOCKET NO. 030115

10

This feature is important for reducing the complexity and length of surgery for installation of the tooth root and also ensures the formation of a stable mount. (Page 3, lines 2 - 7).

As explained above, the Borle reference clearly does not teach or suggest this feature of the claimed invention.

The Bjorn et al. reference does not remedy the deficiencies of the Borle reference.

Indeed, the Examiner does not allege that the Bjorn et al. reference discloses these features.

Moreover, Applicant submits that these references would not have been combined as alleged by the Examiner. Indeed, the references are directed to completely different matters and problems.

In particular, the Borle reference is directed to the problem of reducing the dangers for the remaining part of a natural tooth during the insertion and during subsequent use of an obturation screw. (Col. 1, lines 16 - 19).

In stark contrast, the Bjorn et al. reference is concerned with the completely different and unrelated problem of providing good thread cutting characteristics so that it may be fitted without preliminary threading. (Col. 1, lines 50 - 55).

One of ordinary skill in the art who was concerned with the problem of reducing the dangers for the remaining part of a natural tooth during the insertion and during subsequent use of an obturation screw as the Borle reference is concerned, would not have referred to the Bjorn et al. reference, and vice-versa, because the Bjorn et al. reference is concerned with the completely different and unrelated problem of providing good thread cutting characteristics so that it may be fitted without preliminary threading. Thus, these references would not have been combined.

10/693,492
DOCKET NO. 030115

11

Therefore, the Examiner is respectfully requested to withdraw the rejection of claims 5, 8, 13, and 18.

III. FORMAL MATTERS AND CONCLUSION

In view of the foregoing amendments and remarks, Applicant respectfully submits that claims 1-18, all the claims presently pending in the Application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the Application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

10/693,492
DOCKET NO. 030115

12

The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

Date: 6/23/06


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CERTIFICATION OF FACSIMILE TRANSMISSION

I hereby certify that I am filing this Amendment After-Final Rejection Under 37 CFR §1.116 by facsimile with the United States Patent and Trademark Office to Examiner Candice Capri Stokes, Group Art Unit 3732 at fax number (571) 273-8300 this 23rd day of June, 2006.


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